

## APPENDIX I

## TECHNICAL REFERENCE SCHEDULE

## Bell Atlantic Technical References

- TR72565, ~~Issue 1, 1996~~. Bell Atlantic Technical Reference - Basic Unbundled Loop Services - Technical Specifications ~~(as set forth in Exhibit A, Attachment III)~~.
- TR72570, ~~Issue 1, 1996~~. Bell Atlantic Technical Reference - Analog Unbundled Loop Services with Customer Specified Signaling - Technical Specifications ~~(as set forth in Exhibit B, Attachment III)~~.
- TR72575, ~~Issue 1, 1996~~. Bell Atlantic Technical Reference - Digital Unbundled Loop Services - Technical Specifications ~~(as set forth in Exhibit C, Attachment III)~~.
- TR72580, ~~Issue 1, 1997~~. Bell Atlantic Technical Reference - Analog Unbundled Port Services - Technical Specifications ~~(as set forth in Exhibit B, Attachment III)~~.
- TR72585, ~~Issue 1, 1997~~. Bell Atlantic Technical Reference - Digital Unbundled Port Services - Technical Specifications ~~(as set forth in Exhibit C, Attachment III)~~.
- BA905, Bell Atlantic Supplement Common Channel Signaling Network Interface Specification.

## Local Loop

- ANSI/IEEE 743-1995, Standard Methods and Equipment for Measuring the Transmission Characteristics of Analog Voice Frequency Circuits.
- ANSI T1.102-1993, American National Standard for Telecommunication - Digital Hierarchy - Electrical Interfaces.
- ANSI T1.401-1993, American National Standard for Telecommunications - Interface Between Carriers and Customer Installations - Analog Voicegrade Switched Access Lines Using Loop-Start and Ground-Start Signaling.
- ANSI T1.403-1995, Network to Customer Installation - DS1 Metallic Interface.
- ANSI T1.405-1996, Network-to-Customer Installation Interfaces - Direct-Inward-Dialing Analog Voice Grade Switched Access Using Loop Reverse-Battery Signaling.
- ANSI T1.601-1992, American National Standard for Telecommunications - ISDN - Basic Access Interface for Use on Metallic Loops for Application at the Network Side of NT, Layer 1 Specification.
- Bellcore TR-NWT-000057, Functional Criteria for Digital Loop Carrier Systems, Issue 2, January 1993.

### Loop and Advance Services Requirements

G.991.1, "High Bit-rate Digital Subscriber Line (HDSL)". This Recommendation defines the requirements for the individual HDSL transmission system, the transmission performance, the HDSL maintenance requirements and procedures.

G.992.1, "Asymmetrical Digital Subscriber Line (ADSL) transceivers" This Recommendation describes ADSL transceivers on a metallic twisted pair that allow high speed data transmission between the network operator end (NTU-C) and the customer end (NTU-R). Recommendation G.992.1 provides a variety of bearer channels in conjunction with one of three other services dependent on the environment: (i) ADSL transmission simultaneously on the same pair with voice (band) service, (ii) ADSL transmission simultaneously on the same pair with G.961 (Appendix I or II) ISDN services, or (iii) ADSL transmission on the same pair with voice-band transmission and with TCM-ISDN (G.961 Appendix III) in an adjacent pair. Systems allow approximately 6 Mbit/s downstream and approximately 640 kbit/s upstream data rates depending on the deployment and noise environment. - or - T1.413R2, Asymmetrical Digital Subscriber Line (ADSL)

G.992.2, "Splitterless Asymmetrical Digital Subscriber Line (ADSL) transceivers" This Recommendation describes the interface between the telecommunications network and the customer installation in terms of their interaction and electrical characteristics. Recommendation G.992.2 allows the transmission of POTS and V series data services simultaneously with a digital channel over a single mixed gauge twisted metallic pair. Annex C of this Recommendation defines the procedures to operate in a TCM-ISDN noise environment. Operation in frequency band over BRA-ISDN is for further study.

T1.601, "Basic Rate Integrated Services Digital Network (ISDN)".

T1.403, Repeatered T1 (1.544 Mbps) technology

T1.418, - 2000 (Draft), Proposed American National Standard - High Bit Rate Digital Subscriber Line - 2<sup>nd</sup> Generation (HDSL)

TR. No. 59, Single-Carrier Rate Adaptive Digital Subscriber Line (RADSL)

T1E1.4/99-006, HDSL2 (DS1 payload on single pair)

T1E1.4/99-161, RADSL

ANSI T1.413 (ADSL)

ANSI T1.601 (BRI ISDN)

ANSI TR28 (HDSL)

ITU G991.1 (HDSL)

ITU G992.1 (ADSL)

ITU G992.2 (Splitterless ADSL)

**Loop Concentrator/Multiplexer ("LC/M") Technical and Interface Requirements**

Bellcore TR-NWT-000057, Functional Criteria for Digital Loop Carrier Systems, Issue 2, January 1993.

Bellcore TR-NWT-000393, Generic Requirements for ISDN Basic Access Digital Subscriber Lines.

ANSI T1.106 - 1988, American National Standard for Telecommunications - Digital Hierarchy - Optical Interface Specifications (Single Mode).

ANSI T1.105-1995, American National Standard for Telecommunications - Synchronous Optical Network (SONET) - Basic Description including Multiplex Structure, Rates and Formats.

ANSI T1.102-1993, American National Standard for Telecommunications - Digital Hierarchy - Electrical Interfaces.

ANSI T1.403-1989, American National Standard for Telecommunications - Carrier to Subscriber Installation, DS1 Metallic Interface Specification.

Bellcore GR-253-CORE, Synchronous Optical Network Systems (SONET), Common Generic Criteria.

**LC/M and Intelligent LC/M Technical and Interface Requirements**

Bellcore TR-TSY-000008, Digital Interface Between the SLC 96 Digital Loop Carrier System and a Local Digital Switch, Issue 2, August 1987.

Bellcore TR-NWT-000303, Integrated Digital Loop Carrier System Generic Requirements, Objectives and Interface, Issue 2, December 1992; Rev. 1, December 1993; Supplement 1, December 1993.

Bellcore TR-TSY-000673, Operations Systems Interface for an IDLC System, (LSSGR) FSD 20-02-2100, Issue 1, September 1989.

Bellcore Integrated Digital Loop Carrier System Generic Requirements, Objectives and Interface, GR-303-CORE, Issue 1, September 1995.

### **DS1 Conditioned and Optical Loop Feeder Technical Requirements**

Bellcore Technical Requirement TR-NWT-000499, Issue 5, December 1993, section 7 for DS1 interfaces.

Bellcore TR-NWT-000057, Functional Criteria for Digital Loop Carrier Systems, Issue 2, January 1993.

Bellcore TR-NWT-000393, Generic Requirements for ISDN Basic Access Digital Subscriber Lines.

ANSI T1.106-1988, American National Standard for Telecommunications - Digital Hierarchy - Optical Interface Specifications (Single Mode).

ANSI T1.105-1995, American National Standard for Telecommunications - Synchronous Optical Network (SONET) - Basic Description including Multiplex Structure, Rates and Formats.

ANSI T1.102-1993, American National Standard for Telecommunications - Digital Hierarchy - Electrical Interfaces.

ANSI T1.403-1989, American National Standard for Telecommunications - Carrier to Subscriber Installation, DS1 Metallic Interface Specification.

Bellcore GR-253-CORE, Synchronous Optical Network Systems (SONET), Common Generic Criteria.

### **Distribution Technical Requirements**

Bellcore TR-TSY-000057, "Functional Criteria for Digital Loop Carrier Systems", and.

Bellcore TR-NWT-000393, "Generic Requirements for ISDN Basic Access Digital Subscriber Lines."

TL413-1995 Network and Customer Installation Interfaces - Asymmetric Digital Subscriber Line (ADSL) Metallic Interface Committee 11 - Telecommunications Technical Report No. 28, 1994. A Technical Report on High-Bit-Rate Digital Subscriber Lines (HDSL)

### **Distribution Interface Requirements**

Bellcore TR-NWT-000049, "Generic Requirements for Outdoor Telephone Network Interface Devices." Issued December 1, 1994;

Bellcore TR-NWT-000057, "Functional Criteria for Digital Loop Carrier Systems." Issued January 2, 1993;

Bellcore TR-NWT-000393, "Generic Requirements for ISDN Basic Access Digital Subscriber Lines";

Bellcore TR-NWT-000253, SONET Transport Systems: Common Criteria (A module of TSGR, TR-NWT-000440). Issue 2, December 1991;

### **Loop Feeder Interface Requirements**

Bellcore TR-TSY-000008, Digital Interface Between the SLC 96 Digital Loop Carrier System and a Local Digital Switch. Issue 2, August 1987.

Bellcore TR-NWT-000303, Integrated Digital Loop Carrier System Generic Requirements, Objectives and Interface, Issue 2, December 1992-1 Rev. 1, December 1993-1 Supplement 1, December 1993.

Bellcore Integrated Digital Loop Carrier System Generic Requirements, Objectives and Interface, GR-303-CORE, Issue 1, September 1995.

### **ISDN Interface Requirements**

TR-NWT-000393, January 1991, *Generic Requirements for ISDN Basic Access Digital Subscriber Lines.*

TR-NWT-303 specifications to interconnect Digital Loop Carriers.

PSD interfaces adhering to the X.25, X.75 and X.75' ANSI and Bellcore requirements.

ANSI T1.601-1999: ISDN Basic Access Interface for Use on Metallic Loops for Application on the Network Side of the NT (Layer 1 Specification)

ANSI T1.602-1996: ISDN - Data-Link Layer Signaling Specification for Application at the User- Network Interface

ANSI T1.603-1990: ISDN - Minimal Set of Bearer Services for the Primary Rate Interface

ANSI T1.604-1990: ISDN - Minimal Set of Bearer Services for the Basic Rate Interface

ANSI T1.605-1991: ISDN - Basic Access Interface for S and T Reference Points (Layer 1 Specification)

ANSI T1.607-1998: ISDN - Layer 3 Signaling Specification for Circuit Switched Bearer Service for Digital Subscriber Signaling System Number 1 (DSS1)

ANSI T1.610-1998: Generic Procedures for the Control of ISDN Supplementary Services

### **Digital Cross-Connect System ("DCS") Technical Requirements**

ANSI T1.102-1993: American National Standard for Telecommunications - Digital Hierarchy - Electrical Interfaces:

ANSI T1.102.01-199x: American National Standard for Telecommunications - Digital Hierarchy - VT1.5:

ANSI T1.105-1995: American National Standard for Telecommunications - Synchronous Optical Network (SONET) - Basic Description including Multiplex Structure, Rates and Formats:

ANSI T1.105.03-1994: American National Standard for Telecommunications - Synchronous Optical Network (SONET) - Jitter at Network Interfaces:

ANSI T1.105.03a-1995: American National Standard for Telecommunications - Synchronous Optical Network (SONET): Jitter at Network Interfaces - DS1 Supplement:

ANSI T1.105.06-199x: American National Standard for Telecommunications - Synchronous Optical Network (SONET) - Physical Layer Specifications:

ANSI T1.106-1988: American National Standard for Telecommunications - Digital Hierarchy - Optical Interface Specifications (Single Mode):

ANSI T1.107-1988: American National Standard for Telecommunications - Digital Hierarchy - Formats Specifications:

ANSI T1.107a-1990. American National Standard for Telecommunications - Digital Hierarchy - Supplement to Formats Specifications (DS3 Format Applications):

ANSI T1.107b-1991. American National Standard for Telecommunications - Digital Hierarchy - Supplement to Formats Specifications:

ANSI T1.117-1991. American National Standard for Telecommunications - Digital Hierarchy - Optical Interface Specifications (SONET) (Single Mode - Short Reach):

ANSI T1.403-1989. Carrier to Subscriber Installation. DS1 Metallic Interface Specification:

ANSI T1.404-1994. Network-to-Subscriber Installation - DS3 Metallic Interface Specification:

ITU Recommendation G.707. Network node interface for the synchronous digital hierarchy (SDH):

ITU Recommendation G.704. Synchronous frame structures used at 1544, 6312, 2048, 8488 and 44736 kbit/s hierarchical levels:

FR-440 and TR-NWT-000499. Transport Systems Generic Requirements (TSGR): Common Requirements:

GR-820-CORE. Generic Transmission Surveillance: DS1 & DS3 Performance:

GR-253-CORE. Synchronous Optical Network Systems (SONET): Common Generic Criteria: and

TR-NWT-000776. Network Interface Description for ISDN Subscriber Access.

### **STPs MTP and SCCP Performance Requirements**

ANSI T1.111.6 MTP Performance

ANSI T1.112.5. SCCP Performance

### **STPs MTP and SCCP Interface Requirements**

Bellcore GR-905-CORE. Common Channel Signaling Network Interface Specification (CCSNIS) Supporting Network Interconnection. Message Transfer Part (MTP). and Integrated Services Digital Network User Part (ISDNUP): and

Bellecore GR-1432-CORE, CCS Network Interface Specification (CCSNIS) Supporting Signaling Connection Control Part (SCCP) and Transaction Capabilities Application Part (TCAP).

### **STPs Additional Technical Requirements**

ANSI T1.111-1996 American National Standard for Telecommunications - Signaling System Number 7 (SS7) - Message Transfer Part (MTP);

ANSI T1.111A-1994 American National Standard for Telecommunications - Signaling System Number 7 (SS7) - Message Transfer Part (MTP) Supplement;

ANSI T1.112-1992 American National Standard for Telecommunications - Signaling System Number 7 (SS7) - Signaling Connection Control Part (SCCP);

ANSI T1.115-1990 American National Standard for Telecommunications - Signaling System Number 7 (SS7) - Monitoring and Measurements for Networks;

ANSI T1.116-1990 American National Standard for Telecommunications - Signaling System Number 7 (SS7) - Operations, Maintenance and Administration Part (OMAP);

ANSI T1.118-1992 American National Standard for Telecommunications - Signaling System Number 7 (SS7) - Intermediate Signaling Network Identification (ISNI);

Bellecore GR-905-CORE, Common Channel Signaling Network Interface Specification (CCSNIS) Supporting Network Interconnection, Message Transfer Part (MTP), and Integrated Services Digital Network User Part (ISDNUP); and

Bellecore GR-1432-CORE, CCS Network Interface Specification (CCSNIS) Supporting Signaling Connection Control Part (SCCP) and Transaction Capabilities Application Part (TCAP).

### **Number Portability Database Interface Requirements**

TRQ.002-1999 Technical Requirements for Number Portability – Switching Systems

TRQ.003-1999 Technical Requirements for Number Portability – Database and Global Title Translation

TRQ.004-1999 Thousand Block Number Pooling using Number Portability



Committee T1: Thousand Block Number Pooling Using Number Portability, Technical Requirements No. 4 July 1999. Prepared by T1S1.6 Working Group on Number Portability, a working group of Committee T1- Telecommunications, sponsored by ATIS.

### **Toll Free Number Database Technical Requirements**

SR-TSV-002275 (BOC Notes on the (ILEC) Networks, SR-TSV-002275, Issue 2, (Bellcore, April 1994))

### **SCPs/Databases Technical Requirements**

GR-246-CORE, Bell Communications Research Specification of Signaling System Number 7, ISSUE 1 (Bellcore, December 199);

GR-1432-CORE, CCS Network Interface Specification (CCSNIS) Supporting Signaling Connection Control Part (SCCP) and Transaction Capabilities Application Part (TCAP), (Bellcore, March 1994);

GR-954-CORE, CCS Network Interface Specification (CCSNIS) Supporting Line Information Database (LIDB) Service 6, Issue 1, Rev. 1 (Bellcore, October 1995);

GR-1149-CORE, OSSGR Section 10: System Interfaces, Issue 1 (Bellcore, October 1995) (Replaces TR-NWT-001149);

GR-1158-CORE, OSSGR Section 22.3: Line Information Database 6, Issue (Bellcore, October 1995);

GR-1428-CORE, CCS Network Interface Specification (CCSNIS) Supporting Toll Free Service (Bellcore, May 1995); and

"Bellcore Special Report SR-TSV-002275, IBOC Notes on the LEC Networks - Signaling".

### **Network Elements and Ancillary Functions Additional Performance Requirements: Bell Documents**

FR-64, LATA Switching Systems Generic Requirements (LSSGR).

TR-NWT-000499, Issue 5, Rev 1, April 1992, Transport Systems Generic Requirements (TSGR): Common Requirements.

TR-NW 1-000418, Issue 2, December 1992, *Generic Reliability Assurance Requirements For Fiber Optic Transport Systems*.

TR-NW 1-000057, Issue 2, January 1993, *Functional Criteria for Digital Loop Carriers Systems*.

TR-NWT-000507, Issue 5, December 1993, *LSSGR - Transmission, Section 7*.

GR-303-CORE, Issue 1, September 1995, *Integrated Digital Loop Carrier System Generic Requirements, Objectives, and Interface*.

GR-334-CORE, Issue 1, June 1994, *Switched Access Service: Transmission Parameter Limits and Interface Combinations*.

TR-NWT-000335, Issue 3, May 1993, *Voice Grade Special Access Services - Transmission Parameter Limits and Interface Combinations*.

TR-TSY-000529, Issue 2, July 1987, *Public Safety - LSSGR*.

GR-1158-CORE, Issue 2, October 1995, *OSSGR Section 22.3: Line Information Database*.

TR-TSY-000511, Issue 2, July 1987, *Service Standards, a Module (Section 11) of LATA Switching Systems Generic Requirements (LSSGR, FR-NWT-000064)*.

TR-NWT-000393, January 1991, *Generic Requirements for ISDN Basic Access Digital Subscriber Lines*.

TR-NWT-000909, December 1991, *Generic Requirements and Objectives for Fiber In The Loop Systems*.

TR-NWT-000505, Issue 3, May 1991, *LSSGR Section 5, Call Processing*.

FR-NWT-000271, 1993, *Operator Services Systems Generic Requirements (OSSGR)*.

TR-NWT-001156, Issue 2, July 1993, *OSSGR Operator Services Systems Generic Requirements, Section 21, Operator Subsystem*.

SR-TSY-001171, Issue 1, January 1989, *Methods and Procedures for System Reliability Analysis*.

Bellcore *Telecommunications Transmission Engineering*, 3rd Ed. 1990.

**Network Elements and Ancillary Functions Additional Performance Requirements: ANSI Standards**

ANSI T1.512-1994, Network Performance - Point-to-Point Voice-Grade Special Access Network Voiceband Data Transmission Objectives.

ANSI T1.506-1990, Network Performance - Transmission Specifications for Switched Exchange Access Network.

ANSI T1.508-1992, Telecommunications - Network Performance - Loss Plan for Evolving Digital Networks. Also supplement T1.508a-1993.

ANSI T1.101-1994, Digital Synchronization Network Plan.

**Network Elements and Ancillary Functions Additional Performance Requirements: TIA/EIA Standards**

TIA/EIA TSB-37A, Telephone Network Transmission Model for Evaluating Modem Performance.

TIA/EIA TSB-38, Test Procedure for Evaluation of 2-wire 4 kHz Voiceband Duplex Modems.

**Network Elements and Ancillary Functions Additional Performance Requirements: IEEE Standards**

IEEE Standard 743-1984, IEEE Standard Methods and Equipment for Measuring Transmission Characteristics of Analog Voice Frequency Circuits.

ANSI/IEEE Standard 820-1984, Telephone Loop Performance Characteristics.

**Local Switching**

**Bellcore FR-64-LATA, LATA Switching Systems Generic Requirements ("LSSGR"), 1996 Edition, Issue 1, January 1996.**

**Bellcore TR-NWT-000008, Digital Interface Between the SLC®96 Digital Loop Carrier System and a Local Digital Switch, Issue 2, August 1987; and Revision 1, September 1993; and Bulletin 1, October 1994.**

**Bellcore GR-303-CORE, Integrated Digital Loop Carrier System Generic Requirements, Objectives, and Interface, Issue 1, September 1995; and Revision 2, December 1996.**

**Bellcore TR-NWT-000393, Generic Requirements for ISDN Basic Access Digital Subscriber Lines, Issue 2, January 1991.**

Bellcore TCAP (GR-1432-CORE).

ISUP (GR-905-CORE).

Call Management (GR-1429-CORE).

Switched Fractional DS1 (GR-1357-CORE).

Toll Free Service (GR-1428-CORE).

Calling Name (GR-1597-CORE).

Line Information Database (GR-954-CORE).

Advanced Intelligent Network (GR-2863-CORE).

GR-1298-CORE. AIN Switching System Generic Requirements:

GR-1299-CORE. AIN Switch-Service Control Point (SCP)/Adjunct Interface Generic Requirements:

TR-NWT-001284. AIN 0.1 Switching System Generic Requirements:

SR-NWT-002247. AIN Release 1 Update.

Basic Rate Interface ISDN adhering to ANSI standards Q.931, Q.932 and appropriate Bellcore Technical Requirements:

Primary Rate ISDN to PBX adhering to ANSI standards Q.931, Q.932 and appropriate Bellcore Technical Requirements:

#### **Local Switch and Access Tandem Trunks Interface Requirements**

GR-317-CORE GR-394-CORE)

#### **Network Interconnection Additional Requirements**

GR-317-CORE. Switching System generic requirements for Call Control Using the Integrated Services Digital Network User Part (ISDNUP). Bellcore, February, 1994.

GR-394-CORE, Switching System generic requirements for Interexchange Carrier Interconnection Using the Integrated Services Digital Network User Part (ISDNUP), Bellcore, February, 1994;

FR-NWT-000271, OSSGR Operator Services Systems generic requirements, Bellcore, 1994 Edition; and

FR-NWT-000064, LATA Switching Systems Generic Requirements (LSSGR), Bellcore, 1994 Edition.

### **Tandem Switching and Operator Services**

**Bellcore TR-TSY-000540, LSSGR: Tandem Supplement, Section 20, Issue 2, July 1987; and Revision 1, December 1988; and Revision 2, June 1990.**

**Bellcore GR-1149-CORE, OSSGR Section 10: System Interfaces, Issue 1, October 1995.**

**Bellcore GR-1158-CORE, OSSGR Section 22.3: Line Information Database, Issue 2, October 1995.**

GR-905-CORE covering CCSNIS;

GR-1429-CORE for call management features; and GR-2863-CORE and GR-2902-CORE covering CCS AIN interconnection.

### **SS7**

**ANSI T1.110-1992, American National Standard Telecommunications - Signaling System Number 7 ("SS7") - General Information.**

**ANSI T1.111-~~1996~~<sup>1992</sup>, American National Standard for Telecommunications - Signaling System Number 7 ("SS7") - Message Transfer Part ("MTP").**

**ANSI T1.111A-1994, American National Standard for Telecommunications - Signaling System Number 7 ("SS7") - Message Transfer Part ("MTP") Supplement.**

**ANSI T1.112-~~1996~~<sup>1992</sup>, American National Standard for Telecommunications - Signaling System Number 7 ("SS7") - Signaling Connection Control Part ("SCCP").**

**ANSI T1.113-~~1996~~<sup>1995</sup>, American National Standard for Telecommunications - Signaling System Number 7 ("SS7") - Integrated Services Digital Network ("ISDN") User Part.**

**ANSI T1.114-~~1996~~<sup>1992</sup>, American National Standard for Telecommunications - Signaling System Number 7 ("SS7") - Transaction Capabilities Application Part ("TCAP").**

ANSI T1.115-1990, American National Standard for Telecommunications - Signaling System Number 7 ("SS7") - Monitoring and Measurements for Networks.

ANSI T1.116-~~1996-1999~~, American National Standard for Telecommunications - Signaling System Number 7 ("SS7") - Operations, Maintenance and Administration Part ("OMAP").

ANSI T1.118-1992, American National Standard for Telecommunications - Signaling System Number 7 ("SS7") - Intermediate Signaling Network Identification ("ISNI").

ANSI T1.669 SS7 - Intermediate Network Selection (INS) Capability

Bellcore GR-246-CORE, Bell Communications Research Specification of Signaling System Number 7, Issue 1, December 1994; and Revision 1, December 1995; and Revision 2, December 1996.

Bellcore GR-317-CORE, Switching System generic requirements for Call Control Using the Integrated Services Digital Network User Part ("ISDNUP"), Bellcore, February, 1994

Bellcore GR-394-CORE, Switching System generic requirements for Interexchange Carrier Interconnection Using the Integrated Services Digital Network User Part ("ISDNUP"), Bellcore, February, 1994

Bellcore GR-905-CORE, Common Channel Signaling Network Interface Specification ("CCSNIS") Supporting Network Interconnection, Message Transfer Part ("MTP"), and Integrated Services Digital Network User Part ("ISDNUP"), Issue 2, December 1996.

Bellcore GR-954-CORE, Common Channel Signaling Network Interface Specification ("CCSNIS") Supporting Line Information Database ("LIDB") Services, Issue 1, June 1994; and Revision 1, October 1995.

Bellcore GR-1428-CORE, Common Channel Signaling Network Interface Specification ("CCSNIS") Supporting Toll-Free Service, Issue 2, May 1995.

Bellcore GR-1429-CORE, Common Channel Signaling Network Interface Specification ("CCSNIS") Supporting Call Management Services, Issue 1, August 1994.

Bellcore GR-1432-CORE, CCS Network Interface Specification ("CCSNIS") Supporting Signaling Connection Control Part ("SCCP") and Transaction Capabilities Application Part ("TCAP"), March 1994.

Bellcore SR-TSV-002275, BOC Notes on the LEC Networks, Issue 2, April 1994.

ANSI T1 (Draft) SS7 - Intermediate Network Selection (INS) Capability

ANSI T1 (Draft) SS7 - Local Service Provider Identification

## AIN

Bellcore GR-1280-CORE, Advanced Intelligent Network ("AIN") Service Control Point ("SCP") Generic Requirements, Issue 1, August 1993.

- Bellcore TR-NWT-001284, Advanced Intelligent Network ("AIN") 0.1 Switching System Generic Requirements, Issue 1, August 1992, and Bulletin 1, March 1993.
- Bellcore GR-1298-CORE, AINGR: Switching System, Issue 3, July 1996, and Revision 1, November 1996.
- Bellcore GR-1299-CORE, AINGR: Switch Service Control Point ("SCP") Adjunct Interface, Issue 3, July 1996, and revision 1, November 1996.
- Bellcore GR-2863-CORE, CCS Network Interface Specification Supporting Advanced Intelligent Network ("AIN"), Issue 2, December 1995.
- Bellcore GR-2902-CORE, CCS Network Interface Specification ("CCSNIS") Supporting Toll-Free Service Using AIN, Issue 1, May 1995.

### Dedicated and Shared Transport

- ANSI T1.101-1994, American National Standard for Telecommunications - Synchronization Interface Standard Performance and Availability.
- ANSI T1.102-1993, American National Standard for Telecommunications - Digital Hierarchy - Electrical Interfaces.
- ANSI T1.105-1995, American National Standard for Telecommunications - Synchronous Optical Network ("SONET") - Basic Description including Multiplex Structure, Rates and Formats.
- ANSI T1.105.01-1995, American National Standard for Telecommunications - Synchronous Optical Network ("SONET") - Automatic Protection Switching.
- ANSI T1.105.02-1995, American National Standard for Telecommunications - Synchronous Optical Network ("SONET") - Payload Mappings.
- ANSI T1.105.03-1994, American National Standard for Telecommunications - Synchronous Optical Network ("SONET") - Jitter at Network Interfaces.
- ANSI T1.105.03a-1995, American National Standard for Telecommunications - Synchronous Optical Network ("SONET"): Jitter at Network Interfaces - DS1 Supplement.
- ANSI T1.105.04-1995, American National Standard for Telecommunications - Synchronous Optical Network ("SONET") - Data Communication Channel Protocols and Architectures.
- ANSI T1.105.05-1994, American National Standard for Telecommunications - Synchronous Optical Network ("SONET") - Tandem Connection.
- ANSI T1.105.06-1996, American National Standard for Telecommunications - Synchronous Optical Network ("SONET") - Physical Layer Specifications.
- ANSI T1.106-1988, American National Standard for Telecommunications - Digital Hierarchy - Optical Interface Specifications (Single Mode).
- ANSI T1.107-1988, American National Standard for Telecommunications - Digital Hierarchy - Formats Specifications.
- ANSI T1.107a-1990, American National Standard for Telecommunications - Digital Hierarchy - Supplement to Formats Specifications (DS3 Format Applications).

- ANSI T1.107b-1991, American National Standard for Telecommunications - Digital Hierarchy - Supplement to Formats Specifications.
- ANSI T1.117-1991, American National Standard for Telecommunications - Digital Hierarchy - Optical Interface Specifications ("SONET") (Single Mode - Short Reach).
- ANSI T1.119-1994, American National Standard for Telecommunications - Synchronous Optical Network ("SONET") - Operations, Administration, Maintenance, and Provisioning ("OAM&P") Communications.
- ANSI T1.119.01-1995, American National Standard for Telecommunications - Synchronous Optical Network ("SONET") - Operations, Administration, Maintenance, and Provisioning ("OAM&P") Communications Protection Switching Fragment.
- ANSI T1.231-1993, American National Standard for Telecommunications - Digital Hierarchy - Layer 1 In-Service Digital Transmission performance monitoring.
- ANSI T1.404-1994, Network-to-Customer Installation - DS3 Metallic Interface Specification.
- Bellcore GR-253-CORE, Synchronous Optical Network ("SONET"): Common Generic Criteria, Issue 2, December 1995.
- Bellcore GR-334-CORE, Switched Access Service: Transmission Parameter Limits and Interface Combinations, Issue 1, June 1994.
- Bellcore GR-342-CORE, High-Capacity Digital Special Access Service-Transmission Parameter Limits and Interface Combinations, Issue 1, December 1995.
- Bellcore GR-499-CORE, Transport Systems Generic Requirements ("TSGR"): Common Requirements, Issue 1, December 1995.
- Bellcore TR-NWT-000776, Network Interface Description for ISDN-1 Customer Access, Issue 2, February 1993.
- Bellcore GR-820-CORE, OTGR Section 5.1: Generic Transmission Surveillance, Issue 1, November 1994. DS1 & DS3 Performance:
- ANSI T1.105.07-199x, American National Standard for Telecommunications - Synchronous Optical Network (SONET) - Sub STS-1 Interface Rates and Formats:
- ANSI T1.105.09-199x, American National Standard for Telecommunications - Synchronous Optical Network (SONET) - Network Element Timing and Synchronization:
- ITU Recommendation G.707, Network node interface for the synchronous digital hierarchy (SDH):
- ITU Recommendation G.704, Synchronous frame structures used at 1544, 6312, 2048, 8488 and 44736 kbit/s hierarchical levels:



Bellcore FR-440 and TR-NWT-000499, Transport Systems Generic Requirements (TSGR): Common Requirements;

Bellcore TR-NWT-000507, Transmission, Section 7, Issue 5 (Bellcore, December 1993). (A module of TSGR, FR-NWT-000064.);

Bellcore SI-TEC-000052, Telecommunications Transmission Engineering Textbook, Volume 2: Facilities, Third Edition, Issue 1 May 1989;

Bellcore SI-TEC-000051, Telecommunications Transmission Engineering Textbook Volume 1: Principles, Third Edition, Issue 1 August 1987.

ANSI T1.105 and ANSI T1.105.07 and physical interfaces per ANSI T1.106.06 (including referenced interfaces

International Telecommunications Union (ITU) Recommendation G.707 and Plesiochronous Digital Hierarchy (PDH) rates per ITU Recommendation G.704.

ANSI T1.119.02-199x, American National Standard for Telecommunications - Synchronous Optical Network (SONET) Operations, Administration, Maintenance, and Provisioning (OAM&P) Communications Performance Monitoring Fragment;

## Network Interface Device

**Bellcore GR-49-CORE, Generic Requirements for Outdoor Telephone Network Interface Devices, Issue 1, December 1994.**

**Bellcore TA-TSY-000120, Customer Premises or Network Ground Wire, Issue 1, March 1986.**

**Bellcore TR-NWT-000239, Generic Requirements for Indoor Telephone Network Interfaces, Issue 2, December 1993.**

**Bellcore TR-NWT-000937, Generic Requirements for Building Entrance Terminals, Issue 1, January 1993.**

Bellcore Technical Requirement TR-NWT-000133 "Generic Requirements for Network Inside Wiring."

## Collocation

Collocation Technical Specifications are to be found in Attachment V, Section 9.

~~ANSI NFPA 1006, National Electrical Code ("NEC"), and any standard imposed by the appropriate governing authority having jurisdiction.~~

~~ANSI C2-1007, National Electrical Safety Code.~~

~~Bellcore GR-62 CORP. Network Equipment Building System ("NEBS") Requirements: Physical Protection. Issue 1, October 1995.~~

~~Bellcore TR-NOP-000151, Generic Requirements for 24, 48, 120, and 140 Volt Central Office Power Plant Rectifiers. Issue 1, May 1985.~~

~~Bellcore TR-NWT-000151, General Requirements for 24, 48, 120, and 140 Volt Central Office Power Plant Control and Distribution Equipment. Issue 2, January 1992.~~

~~Bellcore TR-NWT-000295, Isolated Ground Planes: Definition and Application to Telephone Central Offices. Issue 2, July 1992.~~

~~Bellcore TR-NWT-000810, Supplier Support Generic Requirements ("SSGR"). (A Module of ISSGR, TR-NWT-000064). Issue 1, December 1991.~~

~~Bellcore GR-1089 CORP. Electromagnetic Compatibility and Electrical Safety: Generic Criteria for Network Telecommunications Equipment. Issue 1, November 1996.~~

~~Bellcore TR-NWT-001275 Central Office Environment Installations Removal Generic Requirements. Issue 1, January 1993.~~

August 10, 2000

## **EXHIBIT A**

Bell Atlantic's technician, \_\_\_\_\_,  
was here on behalf of your local service provider:

- ☐ **MCI**  
Contact No. (800) 955-7264
- ☐ **ATX Telecommunications Services**  
Contact No. (800) 393-3800
- ☐ **U.S. Mobile Services, Inc.**  
Contact No. (800) 742-0331
- ☐ **Sprint**  
Contact No. (800) 425-0982
- ☐ **AT&T**  
Contact No. (800) 611-2672
- ☐ **LCI International**  
Contact No. (888) 524-0011
- ☐ **USA eXchange, LLC**  
Contact No. (314) 519-4800
- ☐ **Other:** \_\_\_\_\_  
Contact No. \_\_\_\_\_

**Date:** \_\_\_\_\_ **Time:** \_\_\_\_\_

**Service Order/Tel. Number** \_\_\_\_\_

- ☐ All work was completed and your service is now working.
- ☐ All work is not yet complete:
- ☐ We need access to your property to complete repair/installation work. Please call your local service provider and reschedule an appointment.
  - ☐ We have checked your service to the entry of your home/business and cannot find any fault or trouble. Please check your phones, wire and equipment for proper operation. (see reverse side of card for instructions)
  - ☐ We were able to determine that the trouble is the wire or equipment which belongs to you. We apologize we cannot make these repairs. Please check your wiring and equipment (see reverse side) or call your local service provider for additional instructions.
  - ☐ To provide you with service we needed to place a temporary line on the ground. Permanent repairs will be completed in the near future and access to the home/business will not be necessary.
  - ☐ We were unable to complete your repair/order today due to lack of facilities or equipment. Every effort will be made to resolve this problem as soon as possible. In the event you have questions or need assistance, please call your local service provider.

**J Remarks:** \_\_\_\_\_

### Who is Responsible for Repairs?

You are responsible for the telephones and wiring inside your home/business. You may make repairs yourself or have someone else make the repairs.

Your local service provider is responsible for arranging repair of the outside wiring and has contracted with Bell Atlantic to make some or all of these repairs.

### Diagnosing a Problem

Check all of your telephones and equipment to see if they work. If any telephone works, the trouble is more than likely the inside wire, jack, or in your other telephone/s.

If no telephone works, then you need to plug a working telephone into the Network Interface Device (NID). Some businesses and residence customers have a box installed just inside or outside the place where the telephone wires come into their homes or offices. Inside that box is the NID, which looks like a telephone jack.

The NID separates the telephone company's wiring from yours. By plugging a working telephone into the NID, you can find out where the trouble is.

If the telephone works properly, the problem is in the inside wire, the jacks or in your other telephones or equipment. If the telephone doesn't work, your local service provider is responsible for the problem. In this case, your local service provider should be contacted.

**This test could save you the cost of a service call by preventing unnecessary dispatches of service technicians.**

After checking your telephone and wire, if you still have questions, call your local service provider for additional assistance.



## PART B -- DEFINITIONS

"911 SERVICE" or "911" means a universal telephone number which gives the public direct access to the Public Safety Answering Point (PSAP). Basic 911 service collects 911 calls from one or more local exchange switches that serve a geographic area. The calls are then sent to the correct authority designated to receive such calls.

"ACCESS SERVICE REQUEST" (ASR) means the industry standard forms and supporting documentation used for ordering Access Services. The ASR may be used to order trunking and facilities between MCI and Bell Atlantic for local interconnection.

"ACCESS SERVICES" refers to interstate and intrastate switched access and private line transport services.

"ACT" means the Communications Act of 1934, as amended.

"ADJUNCT EQUIPMENT" is peripheral equipment housing a database that interfaces with a switch and provides the switch with call processing instructions.

"ADVANCED INTELLIGENT NETWORK" (AIN) is a network functionality that permits specific conditions to be programmed into a switch which, when met, directs the switch to suspend call processing and to receive special instructions for further call handling in order to enable carriers to offer advanced features and services.

"ADVANCED SERVICES" means high speed, switched, broadband, wireline telecommunications capability that enables users to originate and receive high-quality voice, data, graphics or video telecommunications using any technology.

"AFFILIATE" is an entity that directly or indirectly owns or controls, is owned or controlled by, or is under common ownership or control with, another entity. In this paragraph, "own" means to own an equity interest (or equivalent) of more than ten percent (10%), and "control" means the right to control the business decisions, management and policy of another entity.

"APPLICABLE LAW" means all applicable laws and government regulations and orders, including, but not limited to, the regulations and orders of the Federal Communications Commission and the Commission.

"AUTOMATED MESSAGE ACCOUNTING" (AMA) means the structure inherent in switch technology that initially records telecommunication message information. AMA format is contained in the Automated Message Accounting document, published by Bellcore as GR-1100-CORE, which defines the industry standard for message recording.

"AUTOMATIC LOCATION IDENTIFICATION" (ALI) is a proprietary database developed for E911 systems that provides for a visual display of the caller's telephone number, address and the names of the emergency response agencies that are responsible for that address. MCIIm will provide ALI record information in National Emergency Number Association (NENA) Version #2 format. The ALI also shows an Interim Number Portability (INP) number, if applicable.

"AUTOMATIC LOCATION IDENTIFICATION/DATA MANAGEMENT SYSTEM" (ALI/DMS) means the emergency service (E911/911) database containing subscriber location information (including name, address, telephone number, and sometimes special information from the local service provider) used to determine to which PSAP to route the call.

"AUTOMATIC NUMBER IDENTIFICATION" (ANI) is a feature that identifies and displays the number of a telephone that originates a call.

"AUTOMATIC ROUTE SELECTION" (ARS) is a CENTREX service feature that provides for automatic selection of the least expensive or most appropriate toll transmission facility for each call based on criteria programmed into the system.

"BELL ATLANTIC" means Bell Atlantic - Virginia, Inc.

"BINDER GROUPS" means the sub-units of a cable, usually in groups of 25 color-coded twisted pairs wrapped in colored tape within a cable.

"BRIDGE TAPS" means the unused sections of a twisted pair subtending the loop between the End User and the serving wire center or extending beyond the End User's location.

"BONA FIDE REQUEST" shall have the meaning set forth in Part A, Section 25.

"CAP" means a competitive access provider.

~~"CLEC" means a competitive local exchange carrier.~~

"CALLING PARTY NUMBER" (CPN) is a CCS parameter which refers to the number transmitted through the network identifying the calling party.

"CARRIER ACCESS BILLING SYSTEM" (CABS) is defined in a document prepared under the direction of the Billing Committee of the OBF. The Carrier Access Billing System document is published by Bellcore in Volumes 1, 1A, 2, 3, 3A, 4 and 5 as Special Reports SR-OPT-001868, SR-OPT-001869, SR-OPT-001871, SR-OPT-001872, SR-OPT-001873, SR-OPT-001874, and SR-OPT-001875, respectively, and contains the recommended guidelines for the billing of access and other connectivity services.

"CENTRAL OFFICE" or "CENTRAL OFFICE SWITCH" means a switching entity within the public switched network, including, but not limited to, End Office Switches and Tandem Office Switches. Central Office Switches may be employed as combination End Office/Tandem Office Switches (Combination Class 5/Class 4).

"CENTREX" means a Telecommunications Service that uses Central Office switching equipment for call routing to handle direct dialing of calls, and to provide numerous private branch exchange-like features.

"CHARGE NUMBER" is a CCS parameter which refers to the number transmitted through the network identifying the billing number of the calling party.

"CLASS" (Bellcore Service Mark) -- Set of call-management service features that utilize the capability to forward a calling party's number between end offices as part of call setup. Features include automatic callback, automatic recall, caller ID, call trace, and distinctive ringing.

"COLLOCATION" means the right of MCIIm to place equipment as specified in Attachment V in Bell Atlantic's Central Offices, or other Bell Atlantic locations pursuant to a Bona Fide Request. MCIIm equipment may be placed via either a physical or virtual collocation arrangement. With physical collocation, MCIIm obtains dedicated space to place and maintain its equipment. With virtual collocation, Bell Atlantic will install and maintain equipment that MCIIm provides to Bell Atlantic.

"CLEC" means a competitive local exchange carrier.

~~"COMBINATIONS" means provision by Bell Atlantic of two or more connected Network Elements ordered by MCIIm to provide its Telecommunication Services in a geographic area or to a specific subscriber and that are placed on the same order by MCIIm.~~

"COMBINATION" means the provision and interconnection by Bell Atlantic of two or more Network Elements ordered by MCIIm, including, but not limited to, Loop/Transport or Network Element Platform. A Combination may consist of Network Elements that were or were not previously or currently combined or connected on Bell Atlantic's network.

"COMMISSION" means the Virginia State Corporation Commission.

"COMMON CHANNEL SIGNALING" (CCS) means a method of digitally transmitting call set-up and network control data over a digital signaling network fully separate from the public switched telephone network that carries the actual call.

"COMMON TRANSPORT" is as defined in Attachment III, Section 9.

"CONDUIT" means a tube or protected pathway that may be used to house communication or electrical cables. Conduit may be underground or above ground (for example, inside buildings) and may contain one or more inner ducts.

"CONFIDENTIAL INFORMATION" has the meaning set forth in Section 22 (Confidentiality) of Part A.



**"CONTROL OFFICE"** is an exchange carrier center or office designated as its company's single point of contact for the provisioning and maintenance of its portion of local interconnection arrangements.

"DARK FIBER" is unused strands of optical fiber. Dark Fiber also includes strands of optical fiber which may or may not have lightwave repeater (regenerator or optical amplifier) equipment interspliced, but which have no line terminating facilities terminated to these strands. Typical single wavelength transmission involves propagation of optical signals at single wavelengths (1.3 or 1.55 micron wavelengths). Dark Fiber may be located within an exchange between Customers, or between a Customer or a remote terminal and a Central Office, or between Central Offices.

**"DEDICATED TRANSPORT"** means the Bell Atlantic transmission facilities, including all Technically Feasible capacity-related services including, but not limited to, DS1, DS3 and OCn levels, dedicated to a particular customer or carrier, that provide telecommunications between wire centers owned by Bell Atlantic or requesting telecommunications carriers, or between switches owned by Bell Atlantic or requesting telecommunications carriers, as defined in Attachment III, Section 10.

"DIGITAL SUBSCRIBER LINE" or "DSL" refers to a set of service-enhancing copper technologies that are designed to provide digital communications services over copper loops either in addition to or instead of normal analog voice service.

"DIGITAL SUBSCRIBER LINE ACCESS MULTIPLEXER" or "DSLAM" is a network device that: (i) aggregates lower bit rate DSL signals to higher bit-rate or bandwidth signals (multiplexing); (ii) disaggregates higher bit-rate or bandwidth signals to lower bit-rate DSL signal (de-multiplexing); (iii) (for passband services) splits off voice (POTS) channel from the DSL channels for handoff to a voice switch or some other transmission media; or (iv) (for passband services) combines voice (POTS) channel onto the DSL channel for delivery to the end-user. The DSLAM must be located at the end of a copper loop nearest the serving wire center (e.g. in a Remote Terminal, Central office, or a Customer's premises).

**"DIRECTORY ASSISTANCE" (DA) or "DIRECTORY ASSISTANCE SERVICES"** provides Directory Listings to callers. Directory Assistance Services may include the option to complete the call at the caller's direction.

**"DIRECTORY ASSISTANCE DATABASE"** refers to the database containing subscriber records that is used by Bell Atlantic in its provision of live or automated operator-assisted directory assistance including 411, 555-1212, NPA-555-1212.

**"DIRECTORY LISTINGS" (DL)** refers to subscriber information, including name, address and phone numbers, that is published in any media, including traditional white/yellow page directories, specialty directories, CD ROM, and other electronic formats.

**"DISCLOSER"** means that Party which has disclosed Confidential Information to the other Party.

"DISTRIBUTION" provides connectivity between the NID component of Loop Distribution and the terminal block on the End User-side of a Feeder Distribution Interface (FDI). The FDI is a device that terminates the Distribution and the Loop Feeder, and cross-connects them in order to provide a continuous transmission path between the NID and an ILEC Central Office. There are three basic types of feeder-distribution connection: (i) multiple (splicing of multiple distribution pairs onto one feeder pair); (ii) dedicated ("home run"); and (iii) interfaced ("cross-connected").

**"EFFECTIVE DATE"** is the date ~~indicated in Part A on which this Agreement is approved by the Commission or deemed approved under the Act, shall become effective.~~

**"END OFFICE SWITCH" or "END OFFICE"** is a Central Office Switch (Class 5) used to connect subscriber station loops for the purpose of connecting to each other and to trunks.

**"ENHANCED 911 SERVICE" (E911)** means a telephone communication service which will automatically route a call dialed "911" to a designated PSAP attendant and will provide to the attendant the calling party's telephone number and, when possible, the address from which the call is being placed and the emergency response agencies responsible for the location from which the call was dialed.

**"EXCHANGE ACCESS"** means the offering of access to Telephone Exchange Services or facilities for the purpose of the origination or termination of telephone toll services.

**"EXCHANGE MESSAGE RECORD SYSTEM" (EMR)** means the system used among ILECs for exchanging telecommunications message information for billable, non-billable, sample, settlement and study data. EMR format is contained in BR-010-200-010 CRIS Exchange Message Record, published by Bellcore and which defines the industry standard for exchange message records.

"FACILITY HAND OFF POINT" describes the physical point of Interconnection that establishes the technical interface, test point and operational responsibility hand off between the Parties for the local Interconnection of their networks.

**"FOC"** means firm order confirmation.

**"ITC"** means an independent telephone company.

**"INCLUDING"** means "including, but not limited to."

"INSIDE WIRE" is all Loop plant owned by Bell Atlantic or one of its Affiliates on end-user customer premises as far as the point of demarcation defined in Section 68.3 of the FCC's rules, including the Loop plant near the end-user customer premises.

"INTERCONNECTION POINT" (IP) is as defined in Attachment IV.

"INTERIM NUMBER PORTABILITY" (INP) is an interim service arrangement whereby subscribers who change local service providers may retain existing telephone numbers without impairment of quality, reliability, or convenience when remaining at their current location or changing their location within the geographic area served by the initial carrier's serving End Office Switch. INP is provided by the means identified in Attachment VII, Section 2.

"INTEREXCHANGE CARRIER" (IXC) means a provider of interexchange Telecommunications Services.

"LINE INFORMATION DATABASE" (LIDB) is a SCP database that provides for such functions as calling card validation for telephone line number cards issued by ILECs and other entities and validation for collect and billed-to-third services.

"LINE STATUS VERIFICATION/VERIFICATION AND CALL INTERRUPT" (LSV/VCI) means an operator-to-operator call in which the originating operator, on behalf of an end user, inquires as to the busy status of, or requests an interruption of, a call on a Telephone Exchange Service.

"LOCAL INTERCONNECTION" is the interconnection of the networks of the Parties for the exchange of Local Traffic and other traffic, in accordance with the requirements of 47 U.S.C. Section 251, and other Applicable Law.

"LOCAL NUMBER PORTABILITY" (LNP) is a long-term service arrangement whereby users of Telecommunications Services may retain, at the same location, existing Telecommunications numbers without impairment of quality, reliability, or convenience when switching from one Telecommunications Carrier to another.

"LOCAL RESALE" is as defined in Attachment II.

"LOCAL SWITCHING" (also known as Circuit Switching) is the Network Element that provides MCIm the ability to use switching functionality in a Bell Atlantic end office switch, including all vertical services, features, functions, and capabilities of a switch. is as defined in Attachment III, Section 7.

"LOCAL TRAFFIC" means is traffic that is originated by an end user subscriber of one Party on that Party's network and directed to the NPA-XXX-XXXX of a LERG-registered end office terminates to an end user subscriber of the other Party on that other Party's network within a given Local eCalling eArea, or and any expanded area service area, ("EAS") area, as defined in Bell Atlantic's Tariffs, or, if by the Commission, has defined local calling areas applicable to all Local Exchange Carriers, then as so defined by the Commission. Local Traffic includes traffic directed to information service providers.

"LOOP" means a transmission facility between a distribution frame, or its equivalent, in a Bell Atlantic central office or wire center, and the loop demarcation point at an end-user customer premises, including inside wire owned by Bell Atlantic or one of Bell Atlantic's Affiliates. The Loop includes all features, functions, and capabilities of this transmission facility including, but not limited to, dark fiber, attached electronics (except those electronics used for provision of advanced services, such as DSLAMs), and line conditioning. When Bell Atlantic provides MCIIm with a Loop, MCIIm will have exclusive use of this Loop element. The Loop may be used to provide modes of transmission that include, but are not limited to, two-wire and four-wire analog voice-grade transmission, and two-wire and four-wire transmission of ISDN, ADSL, HDSL, and DSL, DS3, fiber, and other high capacity signals.

The "LOOP CONCENTRATOR MULTIPLEXER" is the Network Element that does one or more of the following:

- (a) aggregates lower bit rate or bandwidth signals to higher bit rate or bandwidth signals (multiplexing);
- (b) disaggregates higher bit rate or bandwidth signals to lower bit rate or bandwidth signals (demultiplexing);
- (c) aggregates a specified number of signals or channels to fewer channels (concentrating);
- (d) performs signal conversion, including encoding of signals (e.g., analog to digital and digital to analog signal conversion); or
- (e) in some instances performs electrical to optical (E/O) conversion.

"LOOP FEEDER" is the Network Element that provides connectivity between (i) a Feeder Distribution Interface (FDI) associated with Loop Distribution and a termination point appropriate for the media in a Central Office, or (ii) a Loop Concentrator/Multiplexer in a remote terminal and a termination point appropriate for the media in a Central Office.

**"MCIIm" means MCIImetro Access Transmission Services, Inc.**

**"MASTER STREET ADDRESS GUIDE" (MSAG) is a database defining the geographic area of an E911 service. It includes an alphabetical list of the street names, high-low house number ranges, community names, and emergency service numbers provided by the counties or their agents to Bell Atlantic.**

**"MULTIPLE EXCHANGE CARRIER ACCESS BILLING" (MECAB) refers to the document prepared by the Billing Committee of the OBF, which functions under the auspices of the Carrier Liaison Committee (CLC) of the Alliance for Telecommunications Industry Solutions (ATIS). The MECAB document, published by Bellcore as Special Report SR-BDS-000983, contains the**

recommended guidelines for the billing of an access service provided by two or more LECs (including a LEC and a CLEC), or by one LEC in two or more states within a single LATA.

"MULTIPLE EXCHANGE CARRIERS ORDERING AND DESIGN" (MECOD) refers to the guidelines for Access Services - Industry Support Interface, a document developed by the Ordering/Provisioning Committee under the auspices of the OBF, which functions under the auspices of the Carrier Liaison Committee (CLC) of the Alliance for Telecommunications Industry Solutions (ATIS). The MECOD document, published by Bellcore as Special Report SR STS-002643, establishes recommended guidelines for processing orders for access service which is to be provided by two or more LECs (including a LEC and a CLEC). It is published by Bellcore as SRBDS 00983.

"NATIONAL EMERGENCY NUMBER ASSOCIATION" (NENA) is an association with a mission to foster the technological advancement, availability and implementation of 911 nationwide.

"NETWORK ELEMENT" means a facility or equipment used in the provision of a Telecommunications Service, including features, functions and capabilities that are provided by means of such facility or equipment.

"NETWORK ELEMENT PLATFORM" or "NE-P" means the Combination of a Loop, NID, Local Switching, Shared Transport, databases and signaling (e.g., LIDB), the vertical features resident in Bell Atlantic's Central Office switch or in adjunct platforms, and (at MCI's option) operator Systems and Directory Assistance without separately ordering or disconnecting and reconnecting any aspect of a Customer's service.

"NETWORK INTERFACE DEVICE" (NID) includes any means of interconnection of customer premises wiring to Bell Atlantic's Distribution plant, such as a cross connect device used for that purpose, as defined in Attachment III, Section 5.

"NETWORK RATE DEMARCATION POINT" shall have the same meaning as "demarcation point" in 47 C.F.R. § 68.3.

"NON-DISCRIMINATORY" or "NON-DISCRIMINATORY BASIS" means that the Party shall perform the obligation or provide the service in question on a non-discriminatory basis for all other Telecommunications Carriers as defined in Section 202(a) of the Act, and/or Section 251 of the Act as applicable.

"NORTH AMERICAN NUMBERING PLAN" (NANP) means the system or method of telephone numbering employed in the United States, Canada, and certain Caribbean countries. It denotes the three digit Numbering Plan Area code and a seven digit telephone number made up of a three digit Central Office code plus a four digit station number.

~~"NUMBER PORTABILITY" (NP) is a long-term service arrangement whereby users of Telecommunications Services may retain, at the same location, existing Telecommunications numbers without impairment of quality, reliability, or convenience when switching from one Telecommunications Carrier to another.~~

"NUMBERING PLAN AREA" (NPA) (sometimes referred to as an area code) is the three digit indicator which is designated by the first three digits of each 10-digit telephone number within the NANP. Each NPA contains 800 possible NXX Codes. There are two general categories of NPA, "Geographic NPAs" and "Non-Geographic NPAs." A "Geographic NPA" is associated with a defined geographic area, and all telephone numbers bearing such NPA are associated with services provided within that Geographic area. A "Non-Geographic NPA," also known as a "Service Access Code (SAC Code)" is typically associated with a specialized telecommunications service which may be provided across multiple geographic NPA areas; 500, 800, 900, 700, and 888 are examples of Non-Geographic NPAs.

"NXX" or "NXX CODE" is the three digit switch entity indicator which is defined by the fourth, fifth and sixth digits of a 10-digit telephone number within the NANP.

"OCN" means operating company number.

"OPERATOR SERVICES" provides (1) operator handling for call completion (e.g., collect calls); (2) operator or automated assistance for billing after the subscriber has dialed the called number (e.g., credit card calls); and (3) special services (e.g., LSV/VCI, Emergency Agency Call).

"OPERATOR SYSTEMS" is the Network Element that provides operator and automated call handling with billing, special services, subscriber telephone listings, and optional call completion services.

"ORDERING AND BILLING FORUM" (OBF) means the entity which functions under the auspices of the Carrier Liaison Committee (CLC) of the Alliance for Telecommunications Industry Solutions (ATIS).

"PACKET SWITCH" is a switch designed to read the destination address in an incoming cell or packet, consult a routing table and route the packet toward its destination. Packetizing is done in originating CPE and reassembly is done in terminating CPE. Multiple packet formats or protocols exist (e.g., x.25, x.75, frame relay, ATM, and IP).

"PACKET SWITCHING" means the basic packet switching function of routing or forwarding packets, frames, cells or other data units based on address or other routing information contained in the packets, frames, cells or other data units, and the functions that are performed by Digital Subscriber Line Access Multiplexers (DSLAMs), including but not limited to:

- (a) The ability to terminate copper customer loops (which includes both a low band voice channel and a high-band data channel, or solely a data channel);

(b) The ability to forward the voice channels, if present, to a circuit switch or multiple circuit switches;

(c) The ability to extract data units from the data channels on the loops; and

(d) The ability to combine data units from multiple loops onto one or more trunks connecting to a packet switch or packet switches.

**"PARITY" means the following: (i) with respect to a performance requirement for interconnection, that Bell Atlantic will provide interconnection at a level of quality that is equal to that which it provides itself, a subsidiary, an Affiliate, or any other party; (ii) with respect to Local Resale, Bell Atlantic must provide services for resale that are equal in quality, subject to the same conditions, and provided with the same provisioning time intervals that Bell Atlantic provides these services to others, including end users; (iii) with respect to ~~a performance requirement for the provision of a~~ **Network Elements**, ~~on a Non-Discriminatory basis (solely as that term is defined in Attachment III) that the quality of a Network Element, as well as the quality of the access to such Network Element be the same in quality that Bell Atlantic provides for all Telecommunications Carriers requesting access to that Network Element, and to the extent technically feasible, the quality of a Network Element, as well as the quality of the access to such Network Element, be at least equal in quality to that which Bell Atlantic provides to itself; and~~ (iv) with respect to operational support systems (OSS), Bell Atlantic shall furnish Non-Discriminatory access to OSS functions, and provide access to OSS via electronic interfaces equivalent to that electronic access that Bell Atlantic provides to itself, its Affiliates and its subscribers.**

**"PARTY" means a party to this Agreement, either Bell Atlantic or MCI.**

**"PERCENT INTERSTATE USAGE" (PIU) is a calculation which represents the ratio of the interstate toll minutes to the sum of interstate and intrastate toll minutes between exchange carriers sent over Local Interconnection Trunks.**

**"PERCENT LOCAL USAGE" (PLU) is a calculation which represents the ratio of the Local Traffic minutes to the sum of Local Traffic and intrastate toll minutes between exchange carriers sent over Local Interconnection Trunks. Directory Assistance, LSV/VCI, 900, 976, transiting calls from other carriers and switched access calls are not included in the calculation of PLU.**

**"POINT OF INTERCONNECTION" (POI) is as defined in Attachment IV.**

**"PROPRIETARY INFORMATION" shall have the same meaning as Confidential Information.**

**"PUBLIC SAFETY ANSWERING POINT" (PSAP) is the public safety communications center where 911 calls placed by the public for a specific geographic area will be answered.**

**"RAO" means revenue accounting office.**

**"RATE CENTER"** means the geographic point and corresponding geographic area which are associated with one or more particular NPA-NXX codes which have been assigned to Bell Atlantic (or MCIIm) for its provision of Telephone Exchange Service. The "Rate Center point" is the finite geographic point identified by a specific V&H coordinate, which is used to measure distance-sensitive end user traffic to/from the particular NPA-NXX designations associated with the specific Rate Center. The "Rate Center area" is the exclusive geographic area identified as the area within which Bell Atlantic (or MCIIm) will provide Telephone Exchange Services bearing the particular NPA-NXX designations associated with the specific Rate Center. The Rate Center point must be located within the Rate Center area.

**"RECIPIENT"** means that Party to this Agreement (a) to which Confidential Information has been disclosed by the other Party or (b) who has obtained Confidential Information in the course of providing services under this Agreement.

**"RECIPROCAL COMPENSATION"** refers to a reciprocal compensation arrangement between two carriers in which each of the two carriers receives compensation from the other carrier for the transport and termination on each carrier's network facilities of Local Traffic that originates on the network facilities of the other carrier.

**"REMOTE TERMINAL" or "RT"** means a cabinet, vault or similar structure at an intermediate point between the End User and Bell Atlantic's Central Office, where Loops are aggregated and hauled to the Central Office or serving Wire Center using LCM and Transport. The Transport to the Central Office or serving Wire Center may be based on copper or fiber-based digital technologies and may be shared or dedicated. Use of remote terminals reduces the effective length of the Loop and is intended to improve service reliability.

**"RESELLER"** is a category of local exchange service providers who obtain dial tone and associated Telecommunications Services from another provider through the purchase wholesale priced services for resale to their end user subscribers.

**"RIGHT OF WAY" (ROW)** means the right to use the land or other property of another party to place poles, conduits, cables, other structures and equipment, or to provide passage to access such structures and equipment. A ROW may run under, on, or above public or private property (including air space above public or private property) and may include the right to use discrete space in buildings, building complexes or other locations, but does not include inside wire space or structures past the network demarcation point.

**"STP"** means signaling transfer point.

**"SELECTIVE ROUTING"** is a service which automatically routes an E911 call to the PSAP that has jurisdictional responsibility for the service address of the telephone that dialed 911, irrespective of telephone company exchange or Wire Center boundaries.



**"SERVICE AREA CONCEPT" (SAC)** is the box where Bell Atlantic cross-connects the Loop Feeder and the Loop Distribution.

**"SERVICE CONTROL POINT" (SCP)** is as defined in Attachment III, Section 13.

"SHARED TRANSPORT" means the Bell Atlantic-provided transmission facilities shared by more than one carrier, including Bell Atlantic, between end office switches and Bell Atlantic tandem switches, and between tandem switches in Bell Atlantic's network. Where Bell Atlantic Network Elements are connected by intra-office wiring, such wiring is provided as a part of the Network Elements and is not Shared transport. Shared Transport consists of Bell Atlantic inter-office transport facilities and is distinct and separate from Local Switching.

**"SMALL EXCHANGE CARRIER ACCESS BILLING" (SECAB)** means the document prepared by the Billing Committee of the OBF. The Small Exchange Carrier Access Billing document, published by Bellcore as Special Report SR OPT-001856, contains the recommended guidelines for the billing of access and other connectivity services.

**"SPECIALIZED ROUTING"** is as defined in Attachment III, Section 7.2.2.

**"SPECIALIZED ROUTING NODE"** is device that, based on the incoming ANI and the called number, will determine the proper routing for the call and either switch the call to the appropriate Bell Atlantic Operator Services platform or to a designated Point of Interconnection in the originating LATA.

"SPECTRUM COMPATIBILITY" means the capability of two Copper Loop transmission system technologies to coexist in the same cable without service degradation and to operate satisfactorily in the presence of crosstalk noise from each other. Spectrum compatibility is defined on a per twisted pair basis for specific well-defined transmission systems. For the purpose of issues regarding Spectrum Compatibility, service degradation means the failure to meet the Bit Error Ratio (BER) and Signal-to-Noise Ratio (SNR) margin requirements defined for the specific transmission system for all loop lengths, model loops, or loss values within the requirements for the specific transmission system.

**"STATE"** means the Commonwealth of Virginia.

"SUBLOOP" means any portion of the Loop that is technically feasible to access at terminals in Bell Atlantic's outside plant, including inside wire. An accessible terminal is any point on the Loop where technicians can access the wire or fiber within the cable without removing a splice case to reach the wire or fiber within, including, but not limited to, the pole or pedestal, the NID, the minimum point of entry, the single point of interconnection, the main distribution frame, the remote terminal, and the Loop Feeder/Distribution interface.

**"SWITCH"** -- See Central Office Switch.

**"TANDEM OFFICE SWITCHES"** are Class 4 switches, which are used to connect and switch trunk circuits between and among End Office switches and other tandems.

“TANDEM SWITCHING” is as defined in Attachment III, Section 14.

“TARIFF” means any generally available schedule of terms, conditions, prices and fees by which Bell Atlantic or MCIIm offers Telecommunication Services for sale to individuals, including subscriber agreements, special offerings and the like.

“TECHNICALLY FEASIBLE” is as defined in the FCC Interconnection Order.

Interconnection, access to unbundled Network Elements, Collocation, and other methods of achieving interconnection or access to unbundled Network Elements at a point in the network shall be deemed technically feasible absent technical or operational concerns that prevent the fulfillment of a request by a Telecommunications Carrier for such interconnection, access, or methods. A determination of technical feasibility does not include consideration of economic, accounting, billing, space, or site concerns, except that space and site concerns may be considered in circumstances where there is no possibility of expanding the space available. The fact that an ILEC must modify its facilities or equipment to respond to such request does not determine whether satisfying such request is technically feasible. An ILEC that claims that it cannot satisfy such request because of adverse network reliability impacts must prove to the state commission by clear and convincing evidence that such interconnection, access, or methods would result in specific and significant adverse network reliability impacts.

“TELECOMMUNICATIONS” means the transmission, between or among points specified by the user, of information of the user’s choosing, without change in the form or content of the information as sent and received.

“TELECOMMUNICATIONS CARRIER” means any provider of Telecommunications Services, except that such term does not include aggregators of Telecommunications Services (as defined in Section 226 of the Act). A Telecommunications Carrier shall be treated as a common carrier only to the extent that it is engaged in providing Telecommunications Services, except that the Commission shall determine whether the provision of fixed and mobile satellite service shall be treated as common carriage. This definition includes Commercial Mobile Radio Service providers, IXCs and, to the extent they are acting as Telecommunications Carriers, companies that provide both Telecommunications and information services. Private mobile radio service providers are Telecommunications Carriers to the extent they provide domestic or international Telecommunications for a fee directly to the public.

“TELECOMMUNICATIONS SERVICE” means the offering of telecommunications for a fee directly to the public, or to such classes of users as to be effectively available directly to the public, regardless of the facilities used.

“TELEPHONE EXCHANGE SERVICE” means (a) service within a telephone exchange, or within a connected system of telephone exchanges within the same exchange area operated to furnish to subscribers intercommunicating service of the character ordinarily furnished by a single exchange, and which is covered by the exchange service charge, or (b) comparable service provided through a system of Switches, transmission equipment, or other facilities (or

combination thereof) by which a subscriber can originate and terminate a Telecommunications Service.

“UNBUNDLED LOCAL LOOP” (ULL) is as defined in Attachment III, Section 4.

“VOLUNTARY FEDERAL SUBSCRIBER FINANCIAL ASSISTANCE PROGRAMS” are Telecommunications Services provided to low-income subscribers, pursuant to requirements established by the appropriate state regulatory body.

“WAVE DIVISION MULTIPLEX” or “WDM” refers to a device used to combine optical signals at different wavelengths on to a single fiber strand. The combined signal is then transported over the fiber strand. For coarse WDM applications, one signal each at 1.3 micron and 1.55 micron wavelengths are combined. For dense WDM applications, many signals in the vicinity of 1.3 micron wavelength and/or 1.55 micron wavelength are combined.

“WIRE CENTER” denotes a building or space within a building which serves as an aggregation point on a given carrier’s network, where transmission facilities and circuits are connected or switched. Wire Center can also denote a building in which one or more Central Offices, used for the provision of Telephone Exchange Services and exchange Access Services, are located. However, for purposes of collocation service, Wire Center shall mean those points eligible for such connections as specified in the FCC Docket No. 91-141, and rules adopted pursuant thereto.

